



FIG.1

(SOM + CLASS) OUTPUT

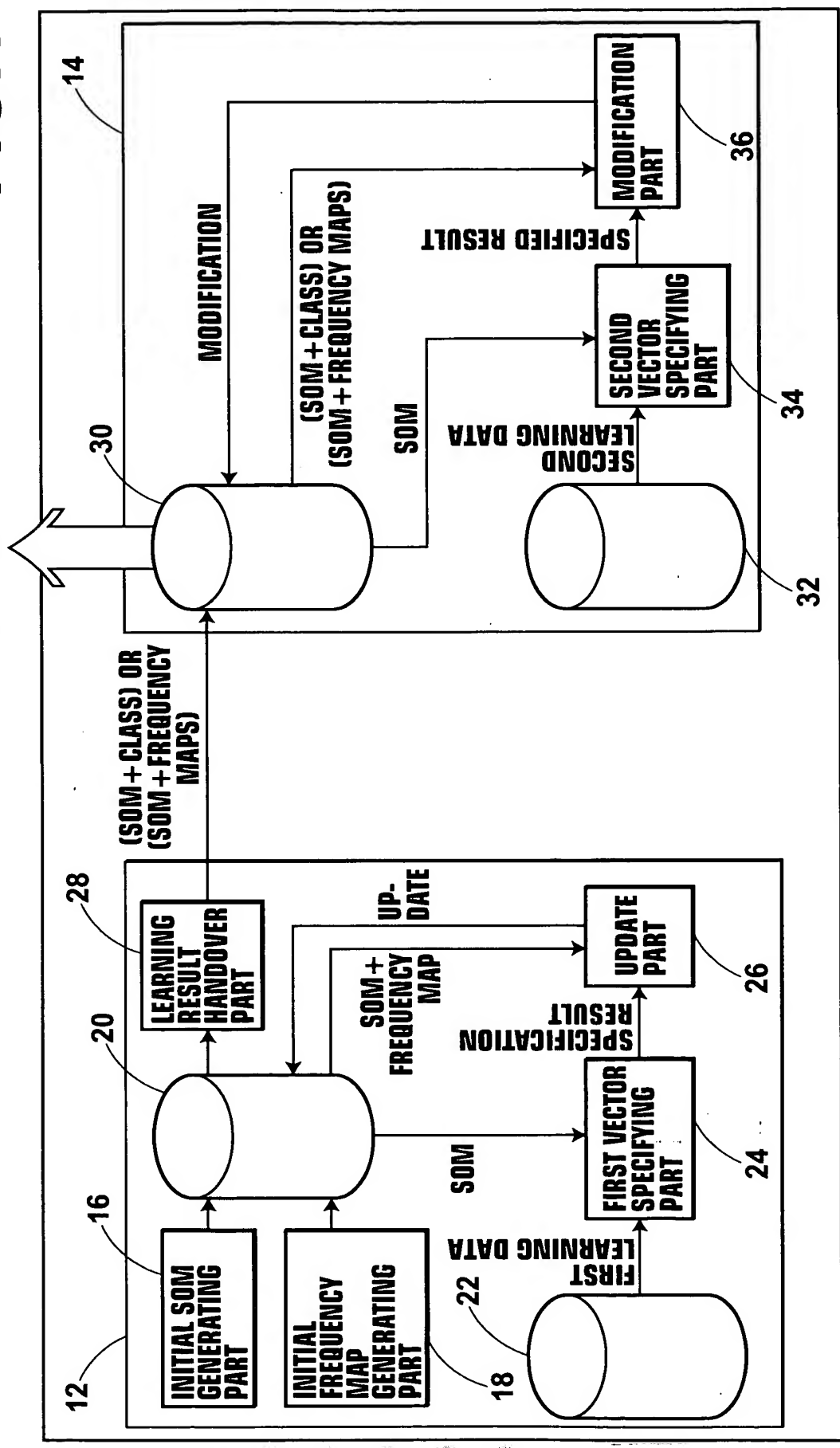
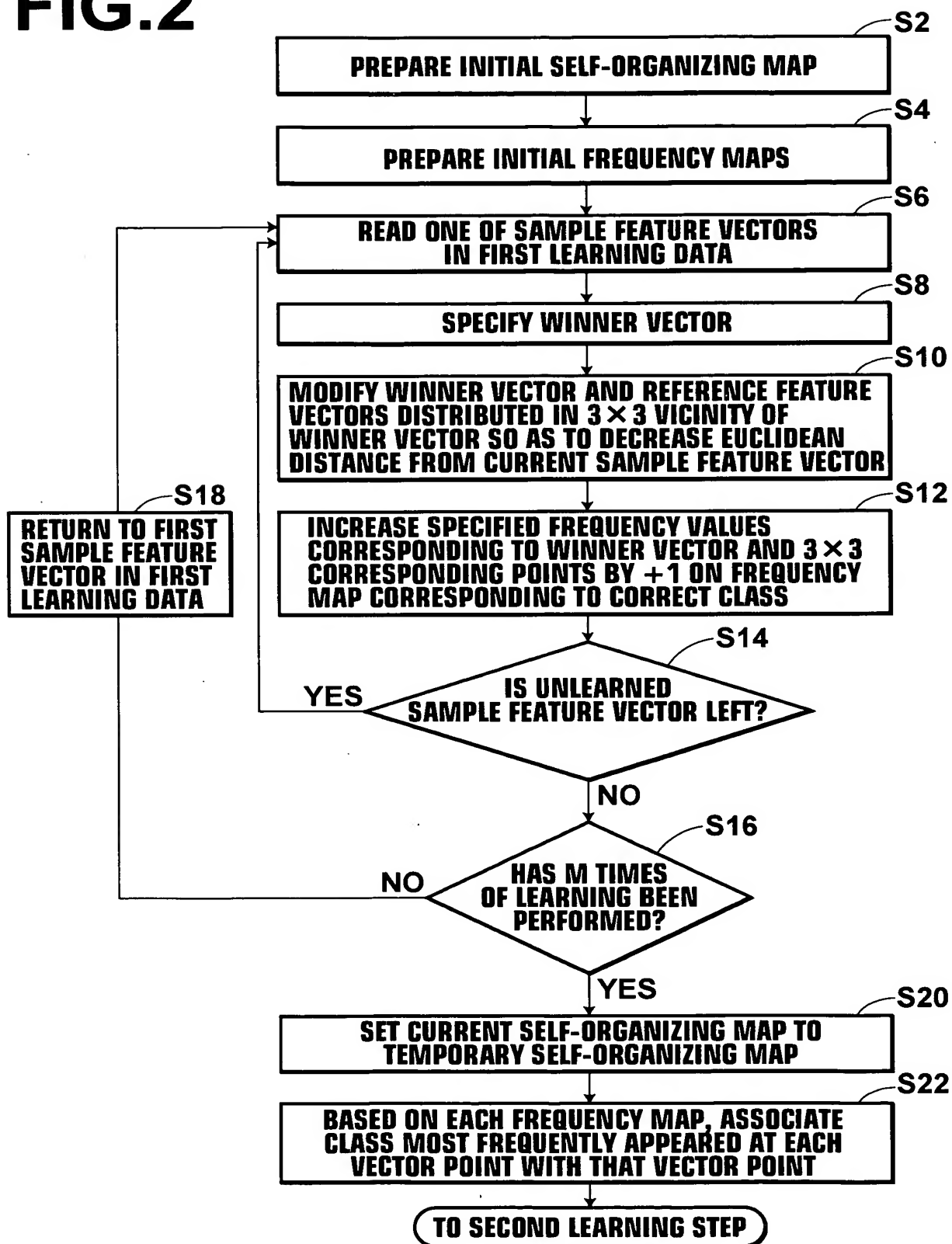


FIG.2



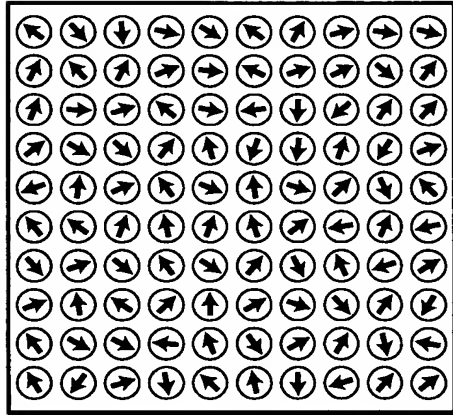
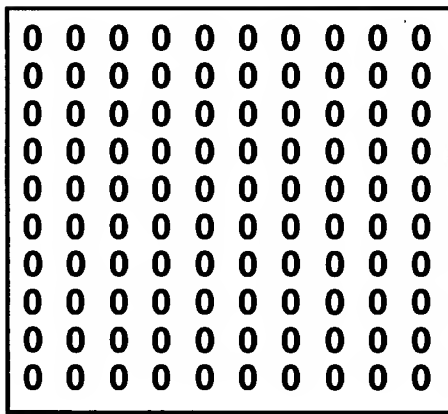
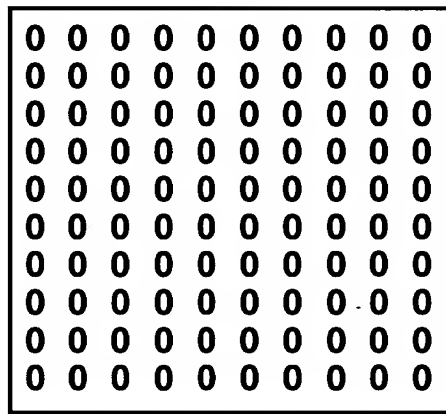


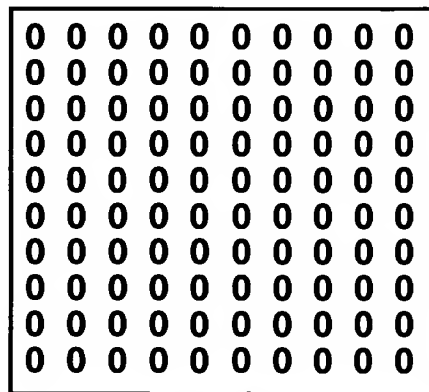
FIG.3A



SKY



MOUNTAIN



FIELD

FIG.3B

-1	0	1
-1	0	1
-1	0	1

VERTICAL EDGE DETECTION FILTER

FIG.4A

-1	-1	-1
0	0	0
1	1	1

HORIZONTAL EDGE DETECTION FILTER

FIG.4B

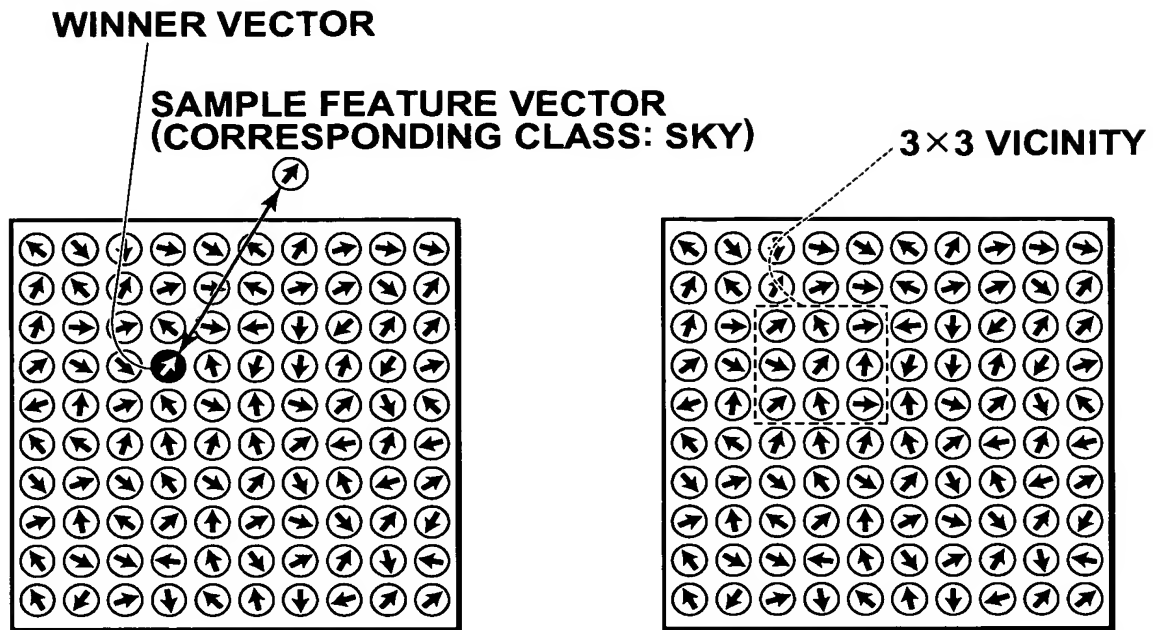


FIG.5A

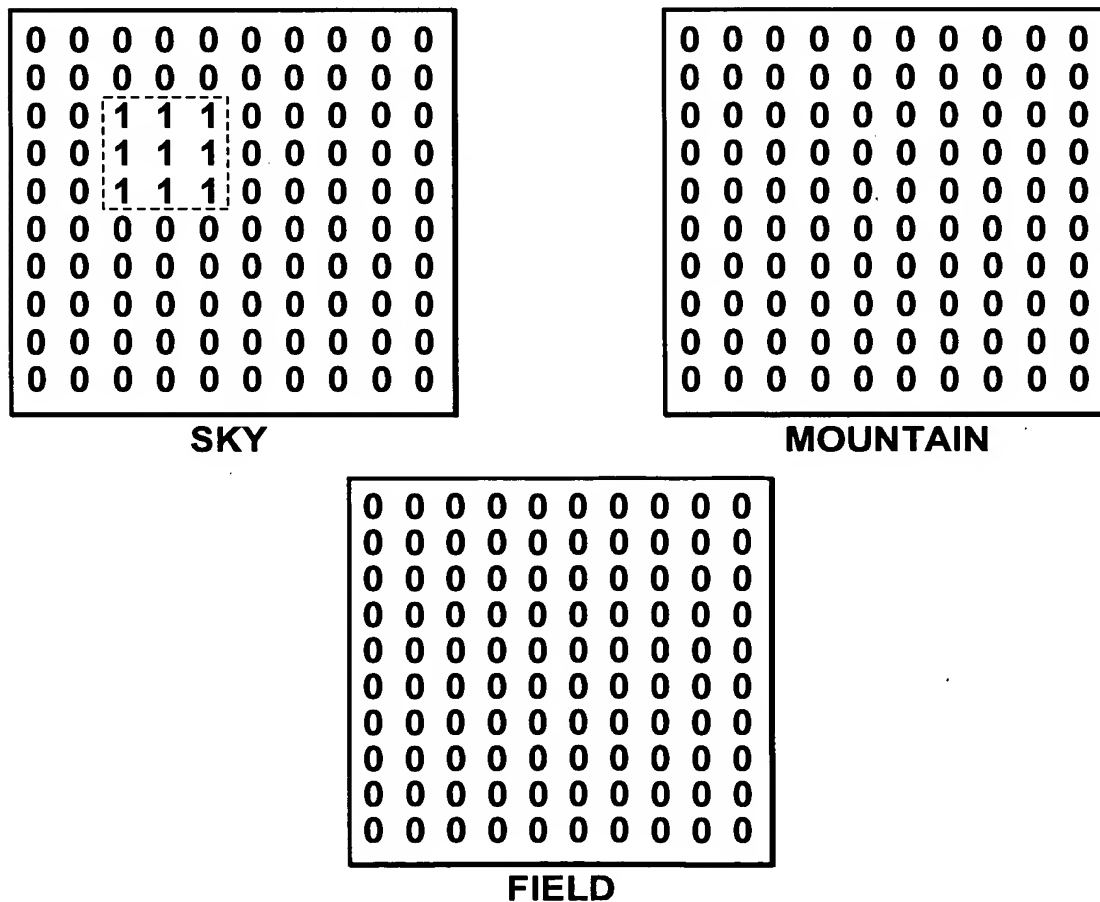
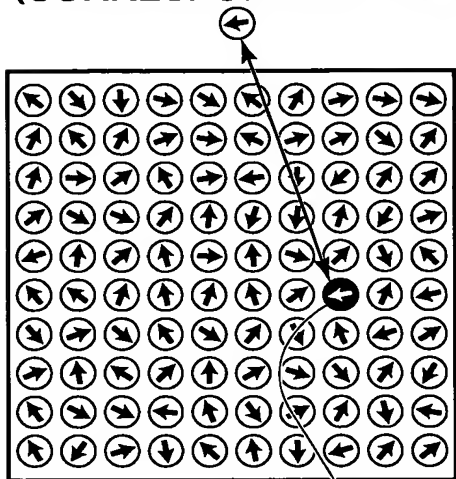


FIG.5B

**SAMPLE FEATURE VECTOR
(CORRESPONDING CLASS: MOUNTAIN)**



WINNER VECTOR

3×3 VICINITY

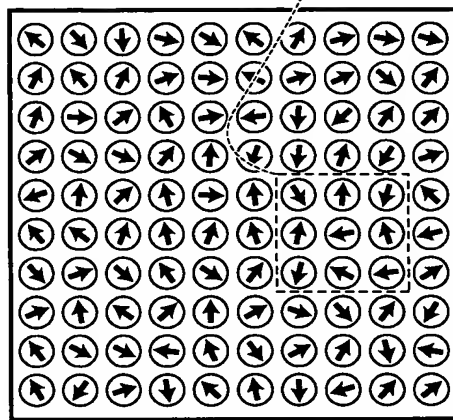
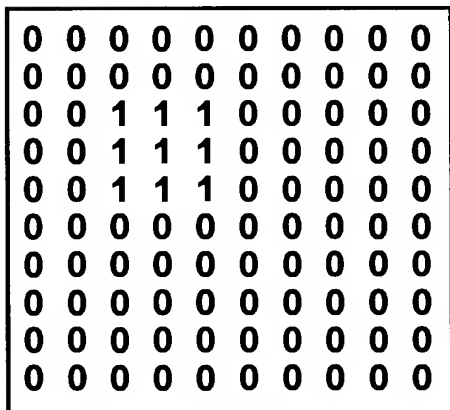
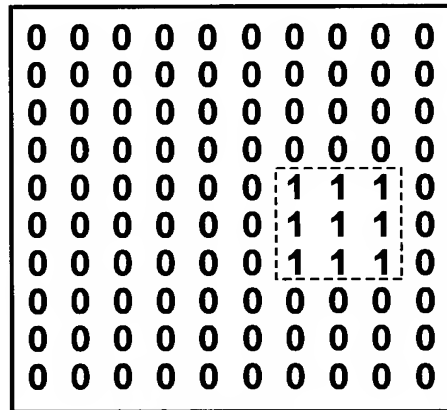


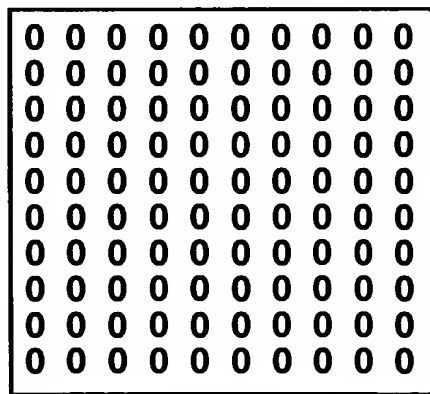
FIG.6A



SKY



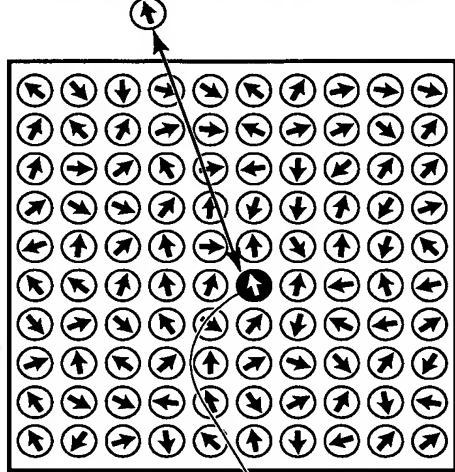
MOUNTAIN



FIELD

FIG.6B

**SAMPLE FEATURE VECTOR
(CORRESPONDING CLASS: SKY)**



WINNER VECTOR

3×3 VICINITY

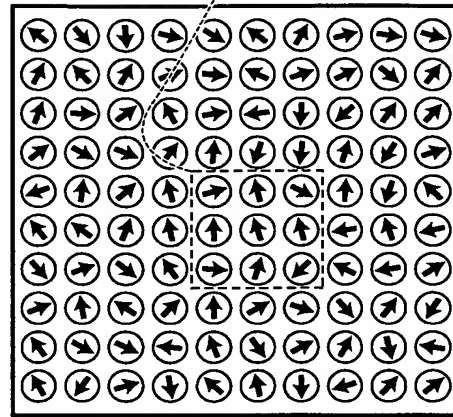
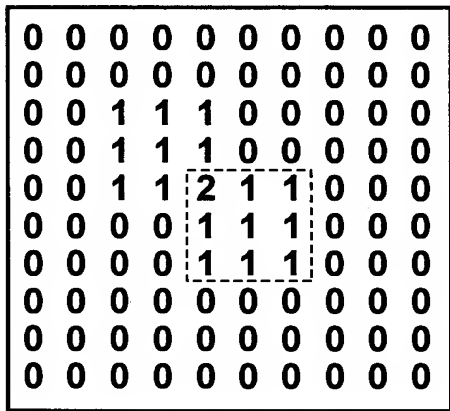
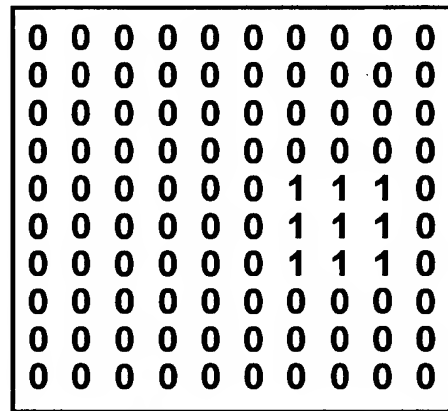


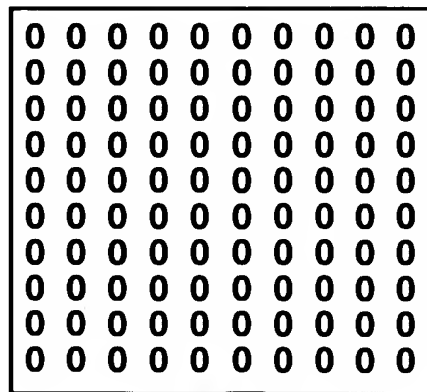
FIG.7A



SKY



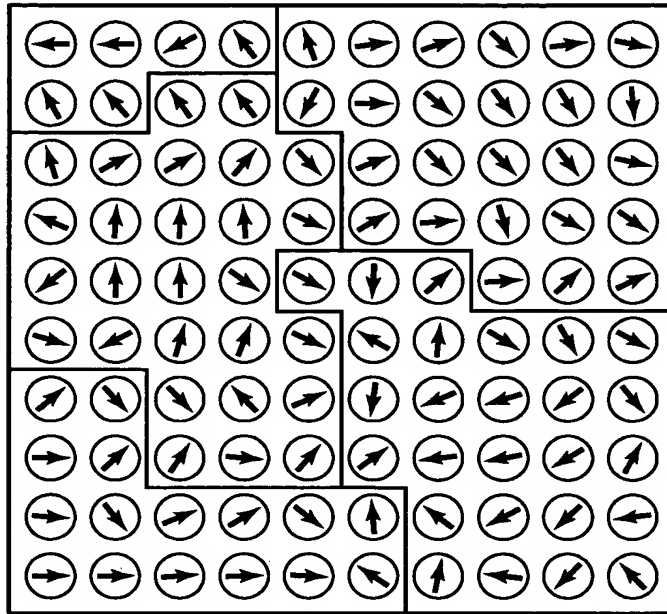
MOUNTAIN



FIELD

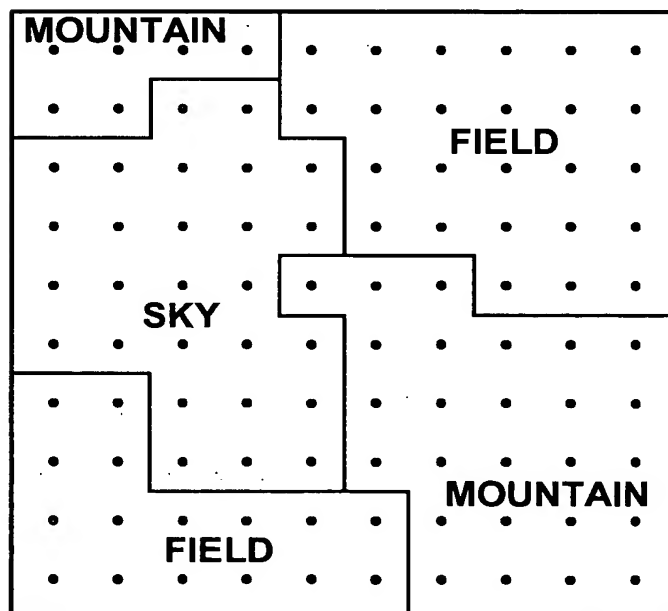
FIG.7B

FIG.8A



CORRESPONDING

FIG.8B



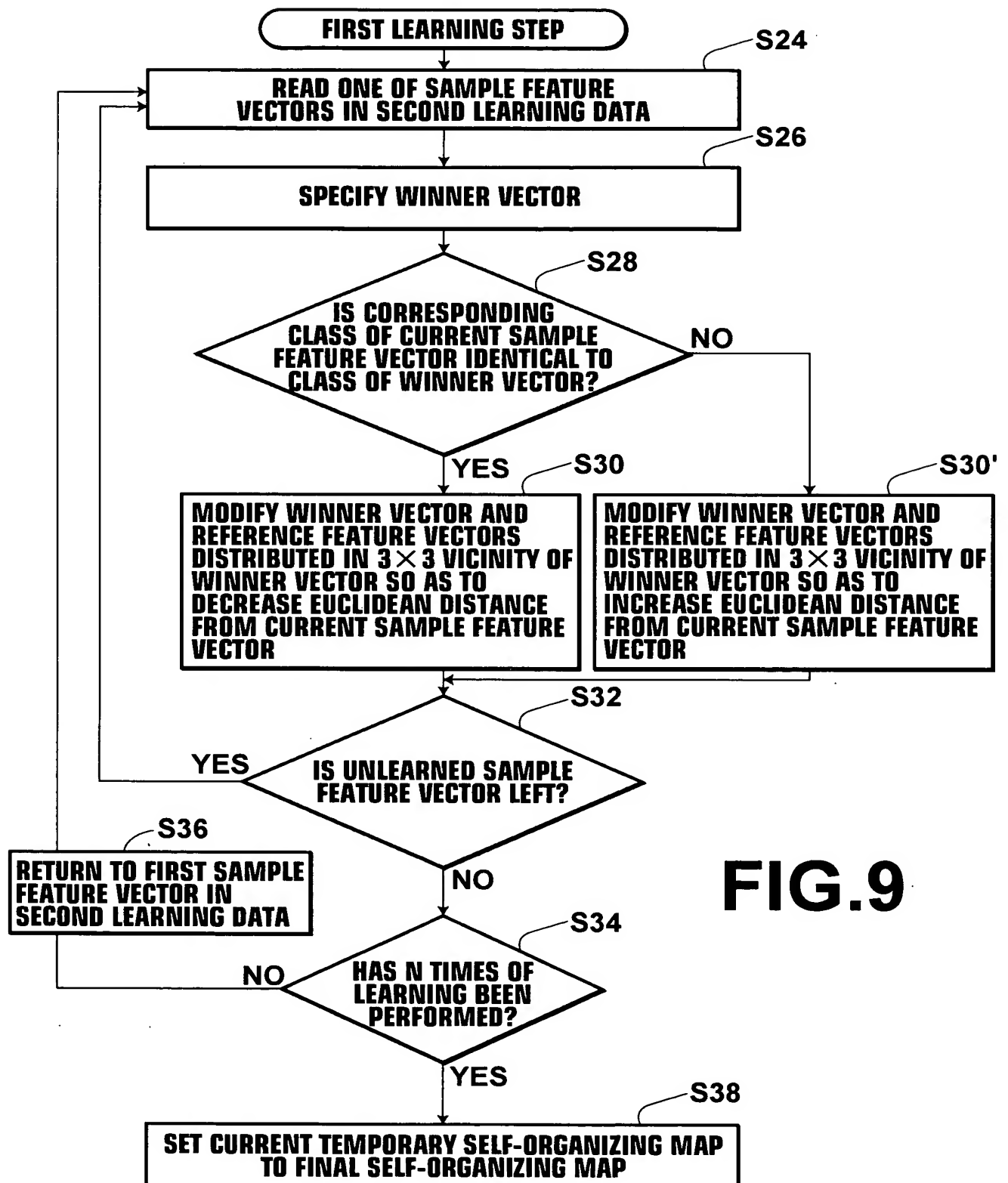


FIG.9

FIG.10A

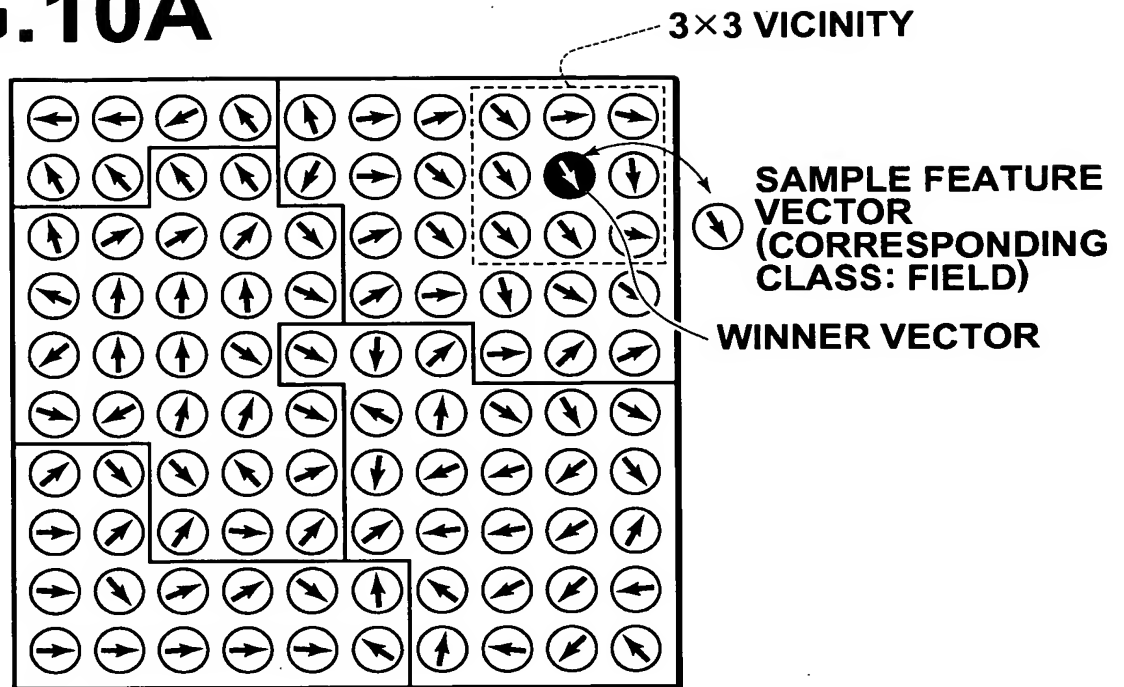


FIG.10B

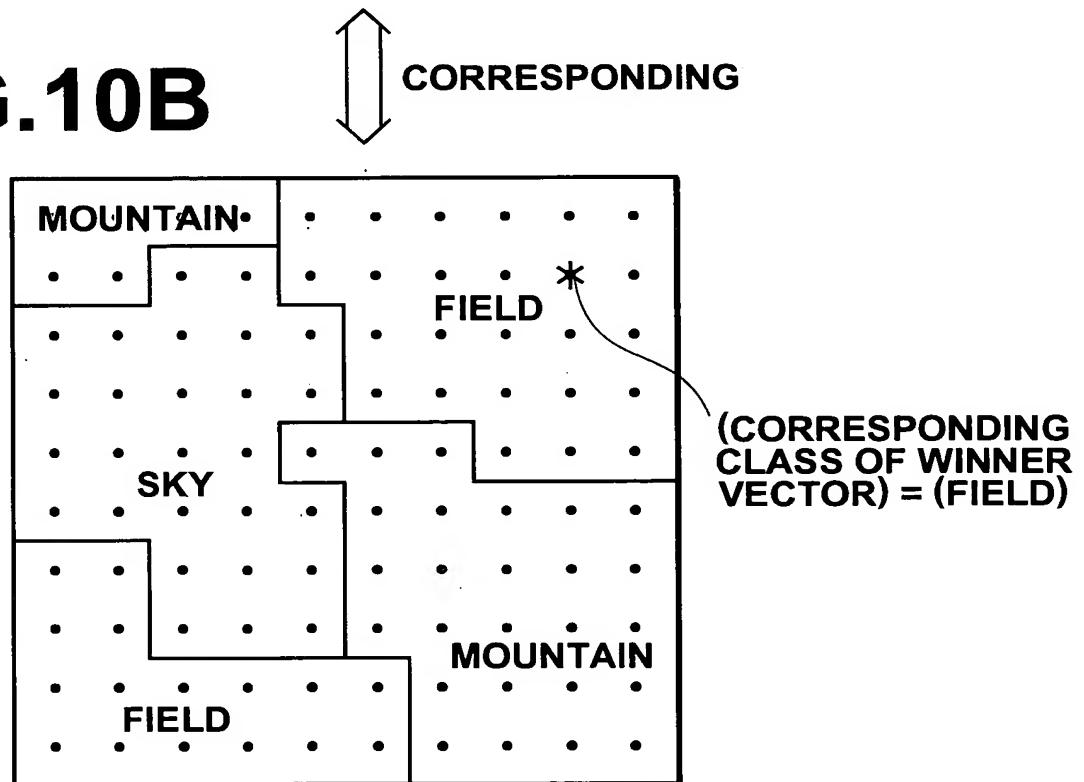


FIG.11A

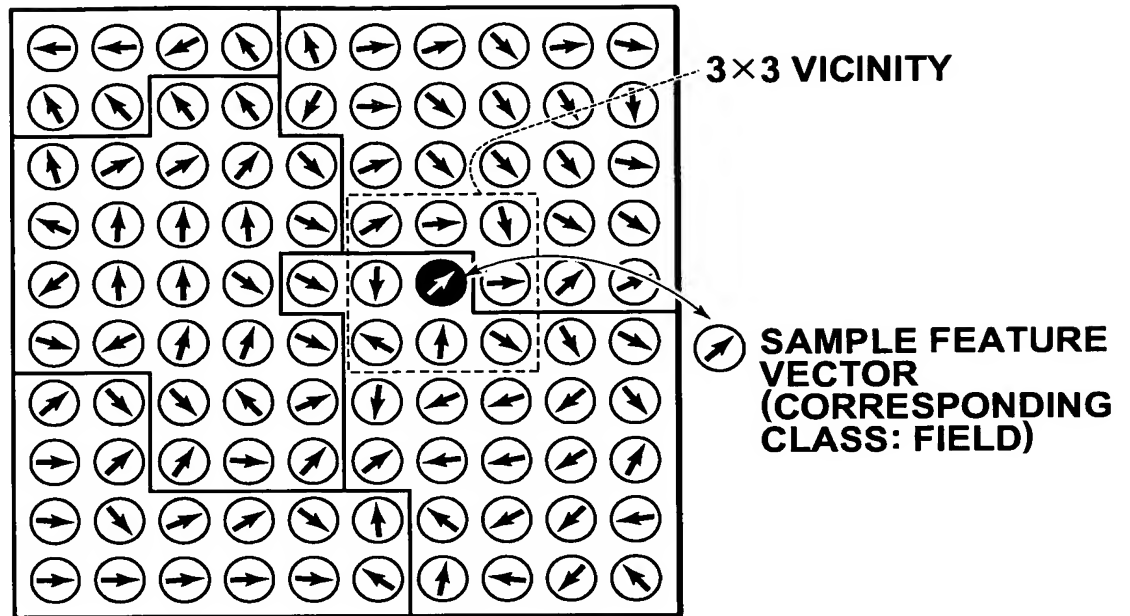


FIG.11B

CORRESPONDING

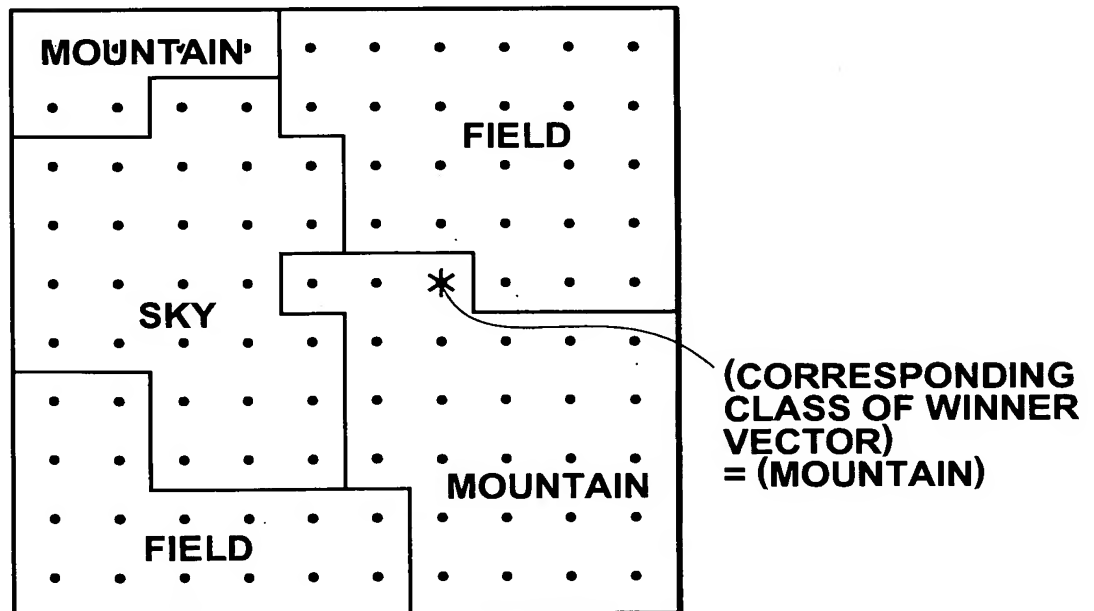


FIG.12

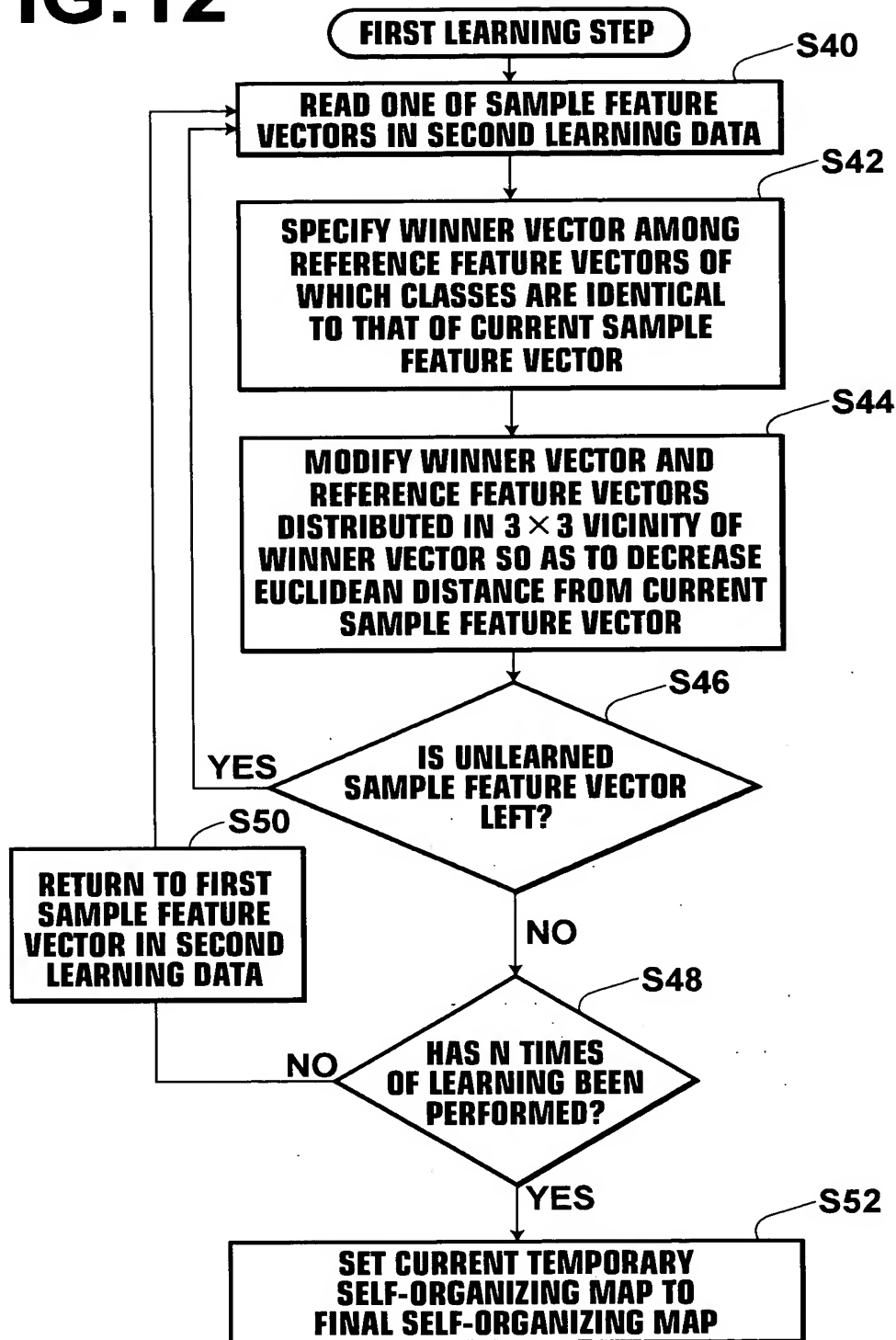
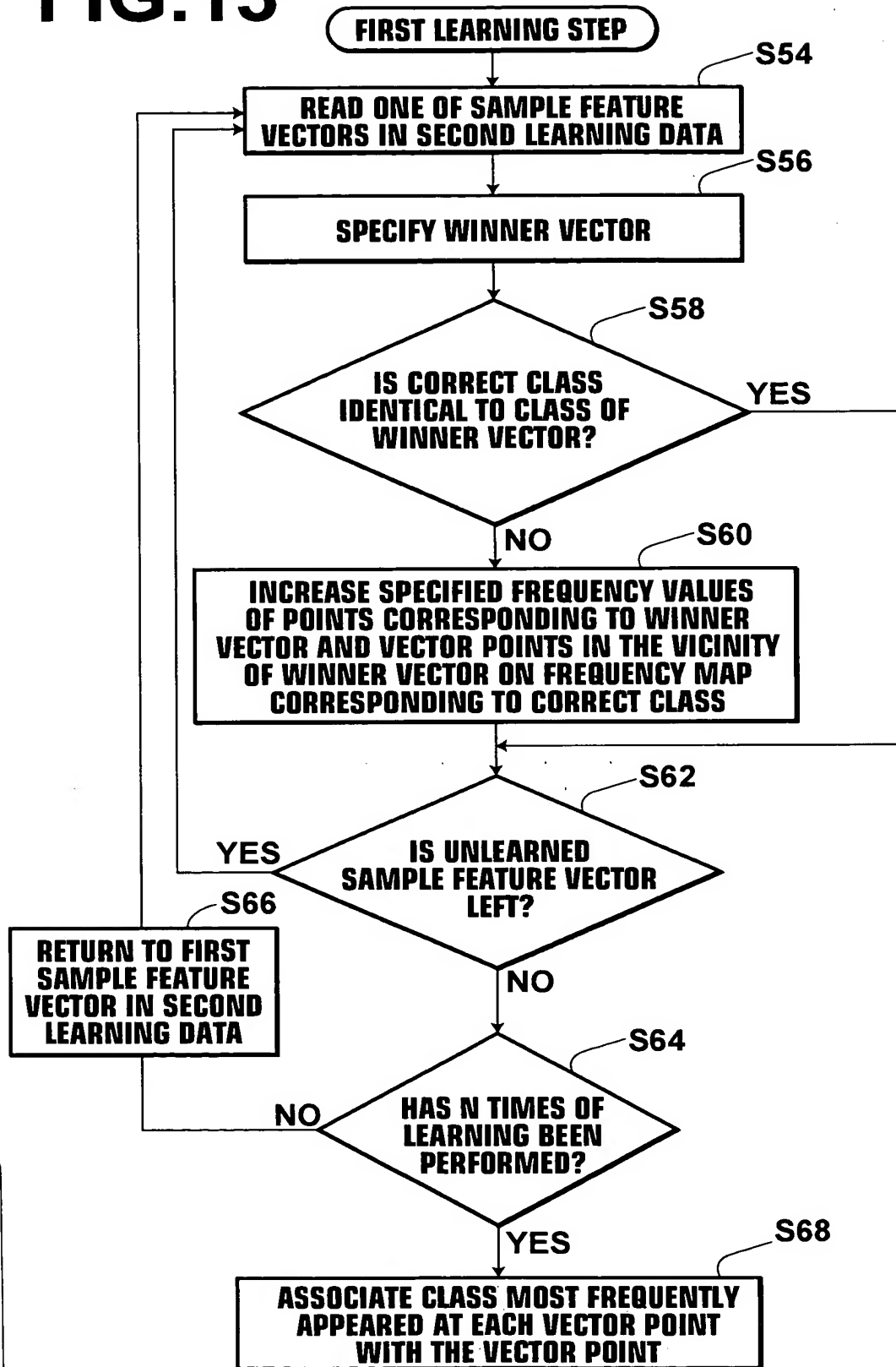


FIG.13



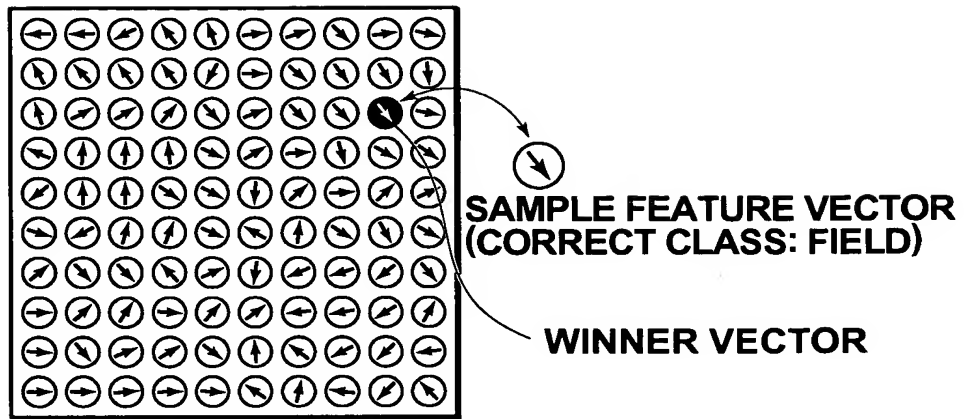
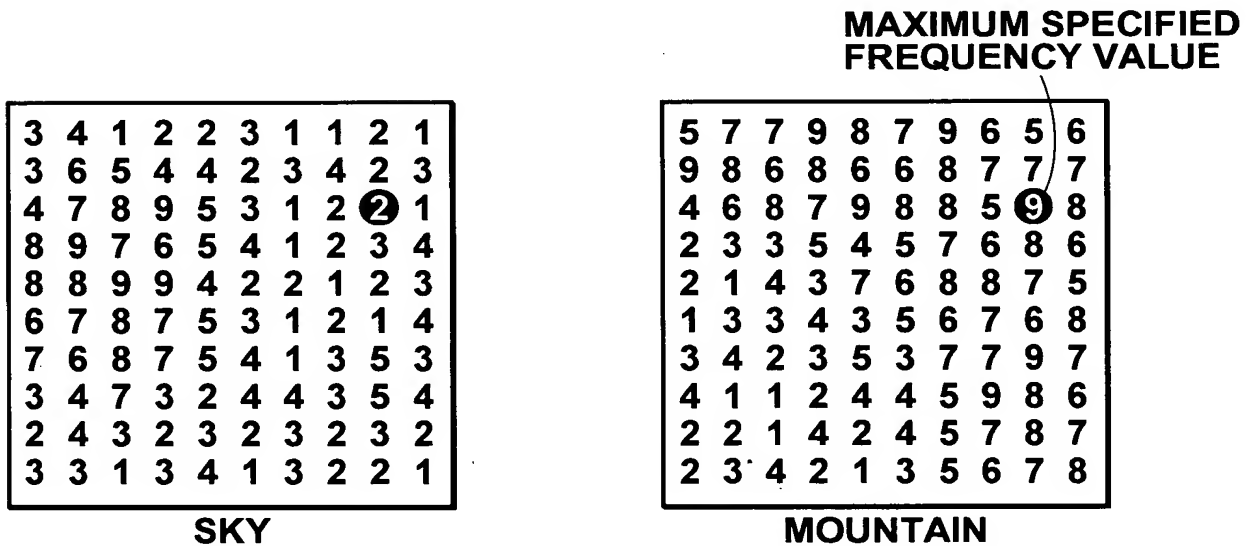


FIG.14A

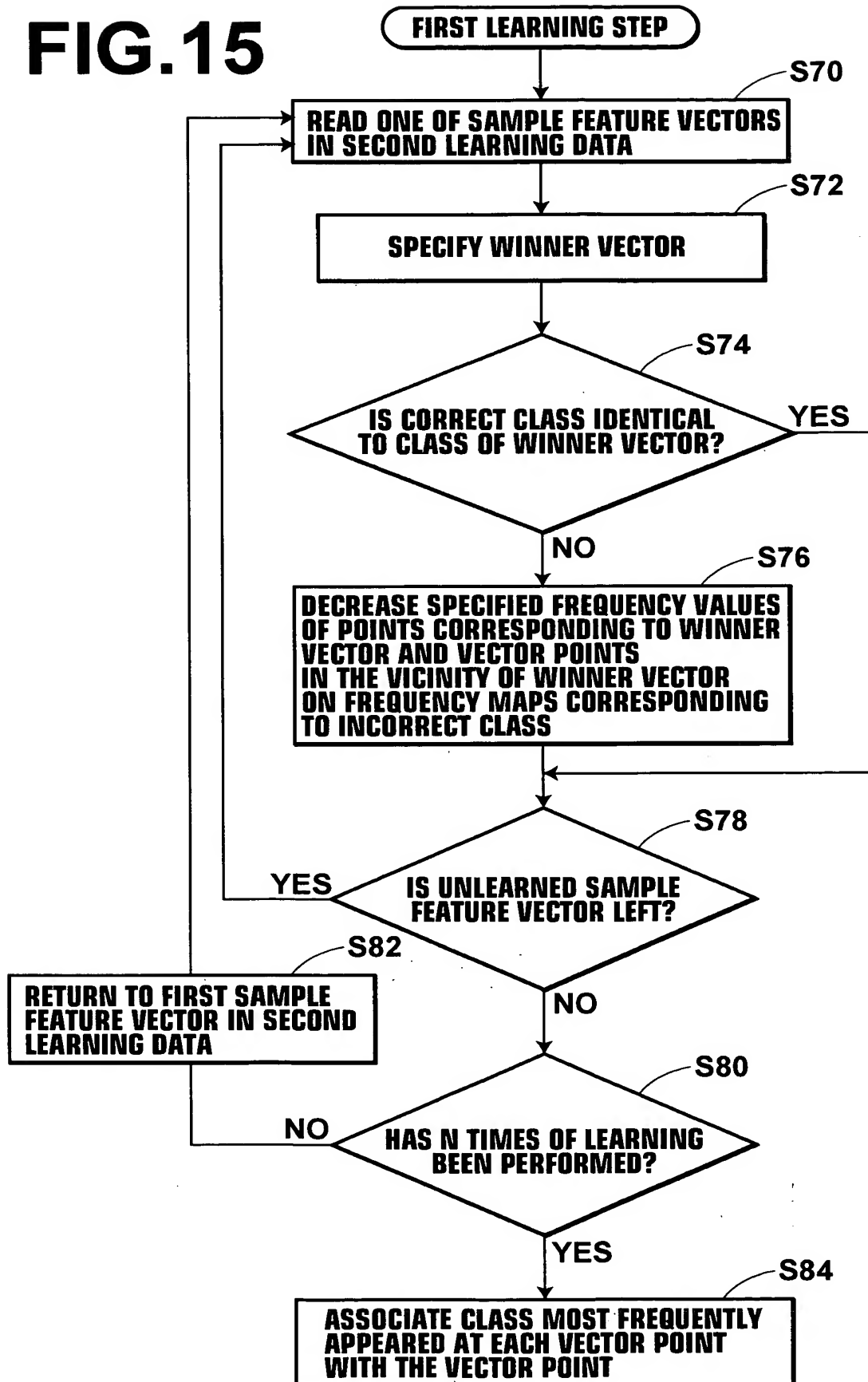


3	2	2	1	3	4	8	6	7	9
2	1	1	2	4	4	7	8	7	8
1	1	2	1	2	2	5	9	8	7
2	2	5	4	2	3	5	7	9	8
3	4	2	4	2	4	7	6	7	8
1	2	2	3	1	3	6	8	8	7
6	5	8	6	1	2	3	4	4	3
7	9	9	8	7	3	2	5	3	4
8	7	8	7	7	2	2	1	1	3
8	6	7	9	6	1	1	3	2	2

FIELD: CORRESPONDING TO CORRECT CLASS

FIG.14B

FIG.15



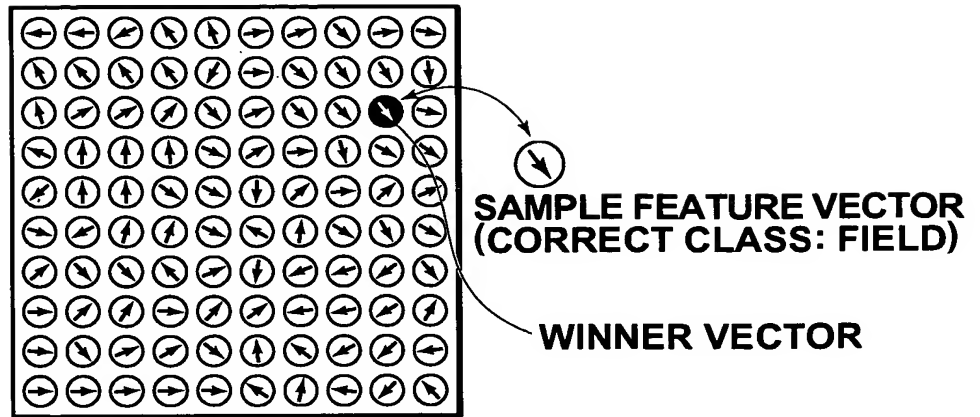


FIG.16A

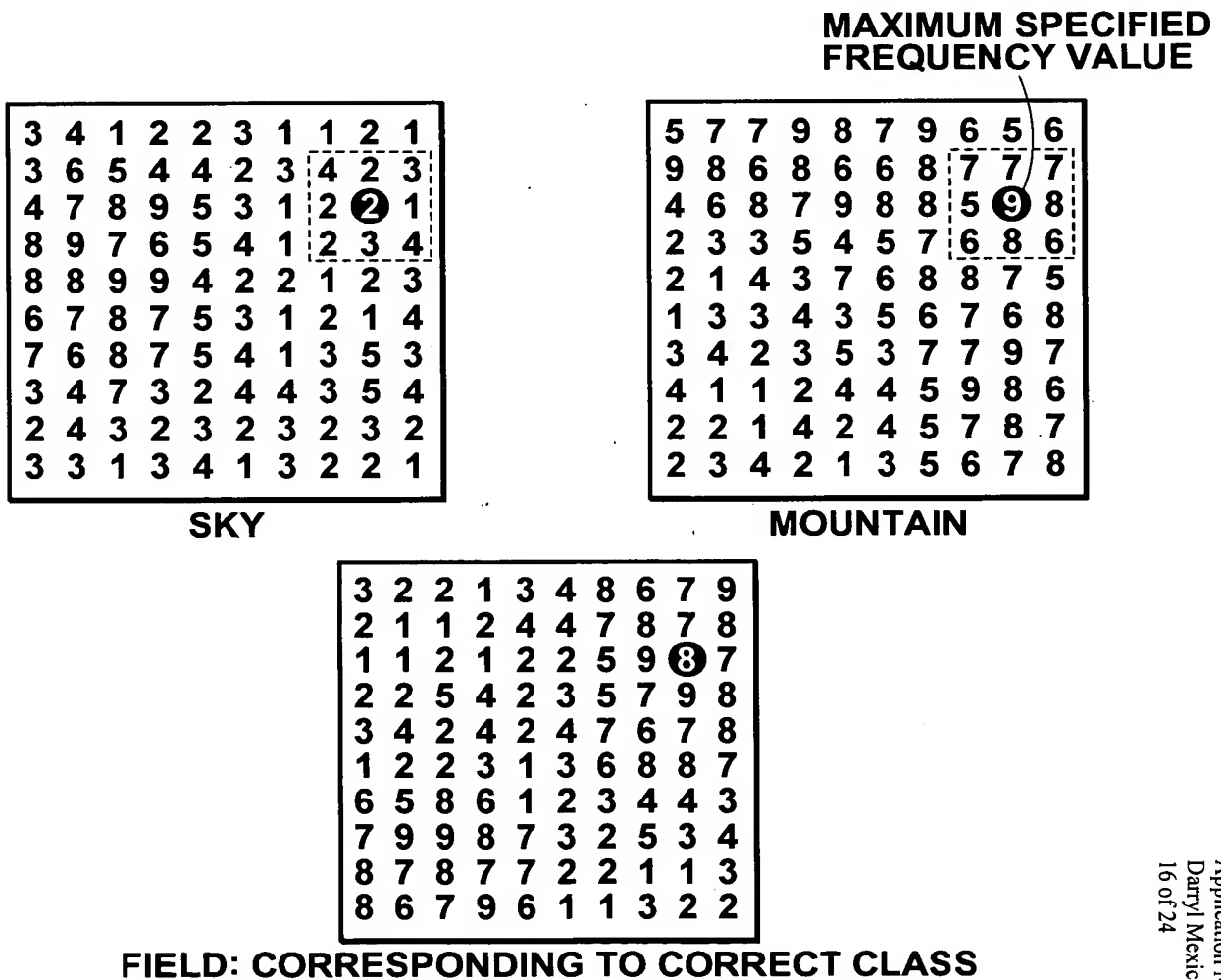


FIG.16B

FIG.17

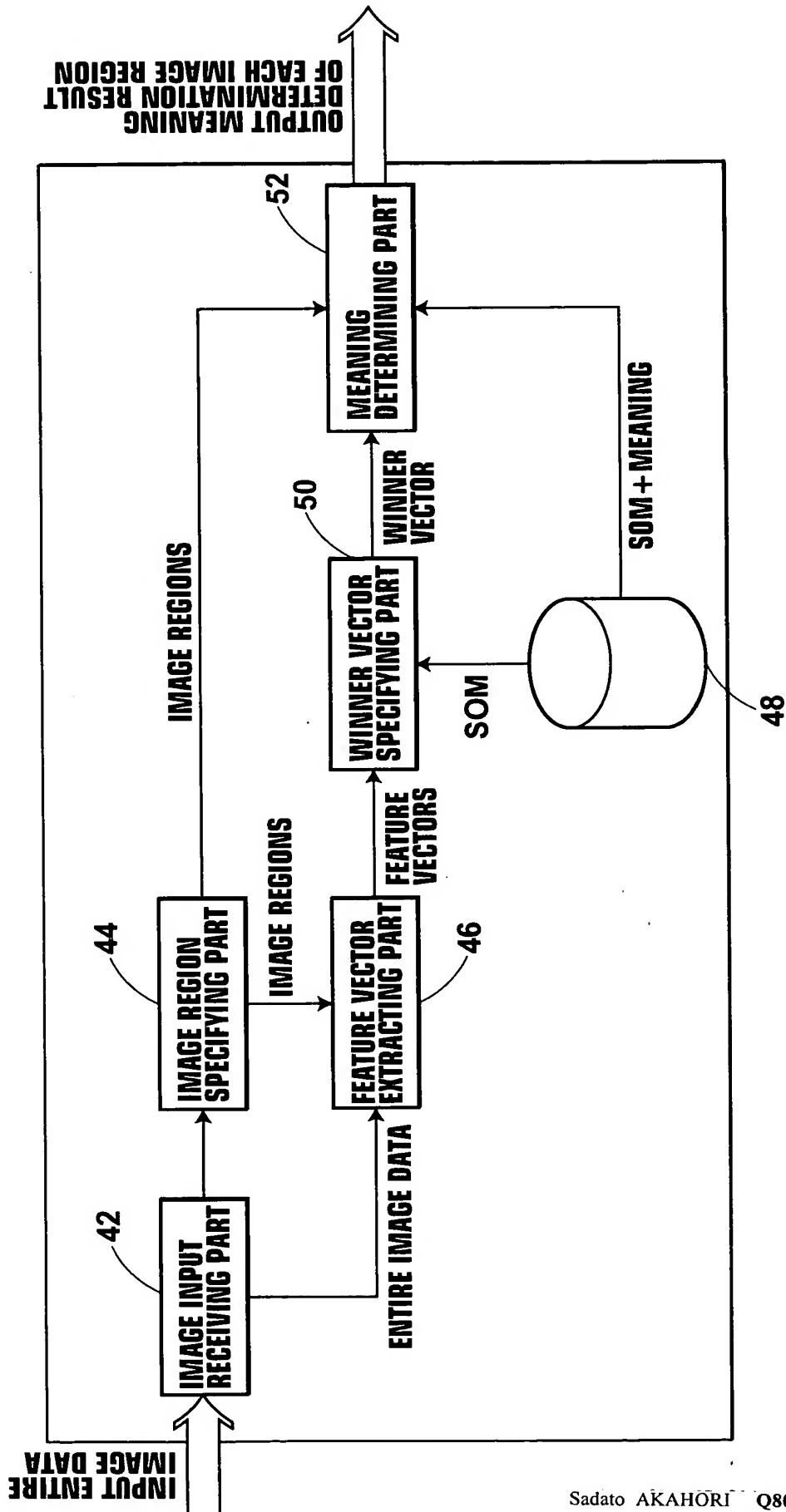


FIG.18

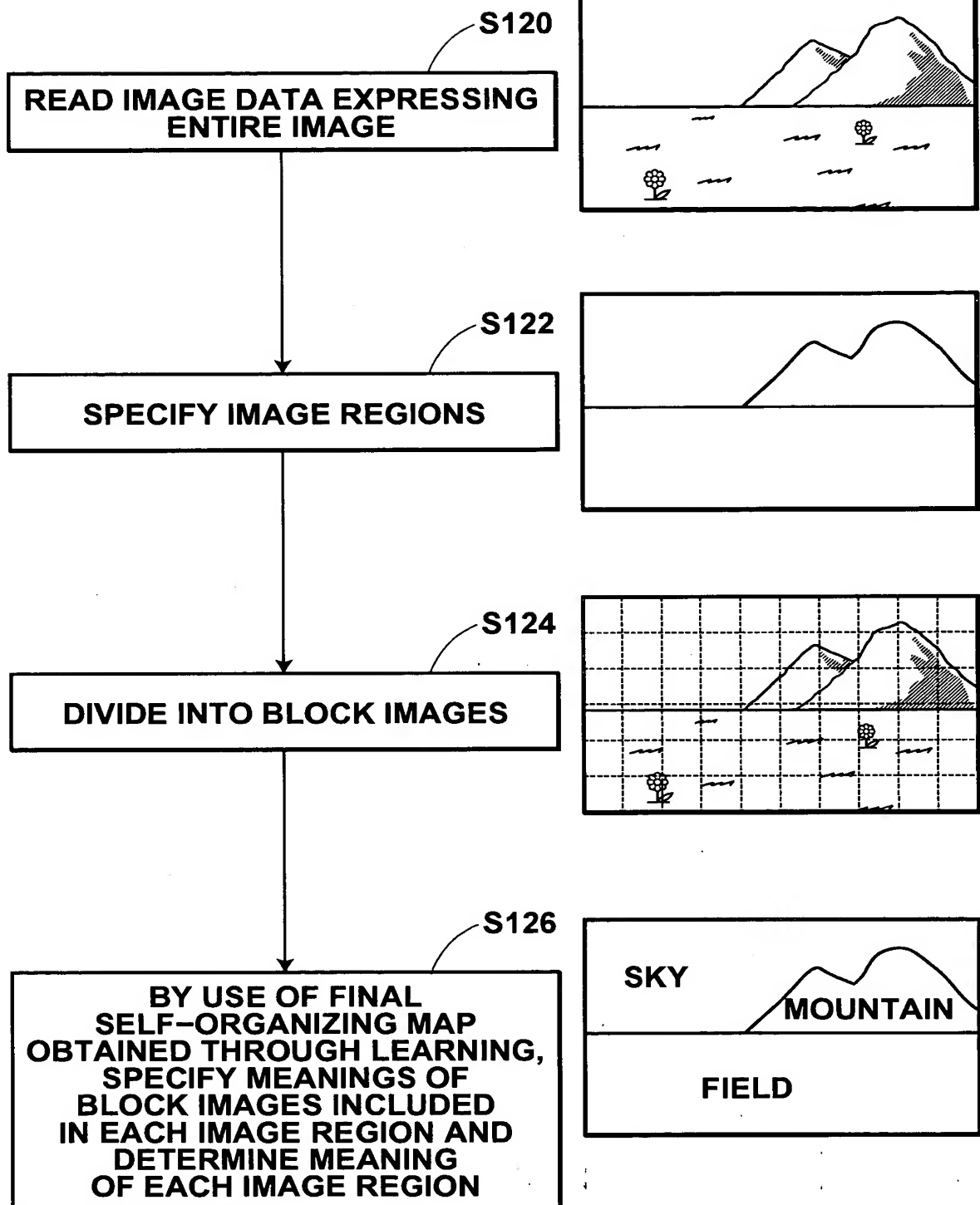


FIG.19

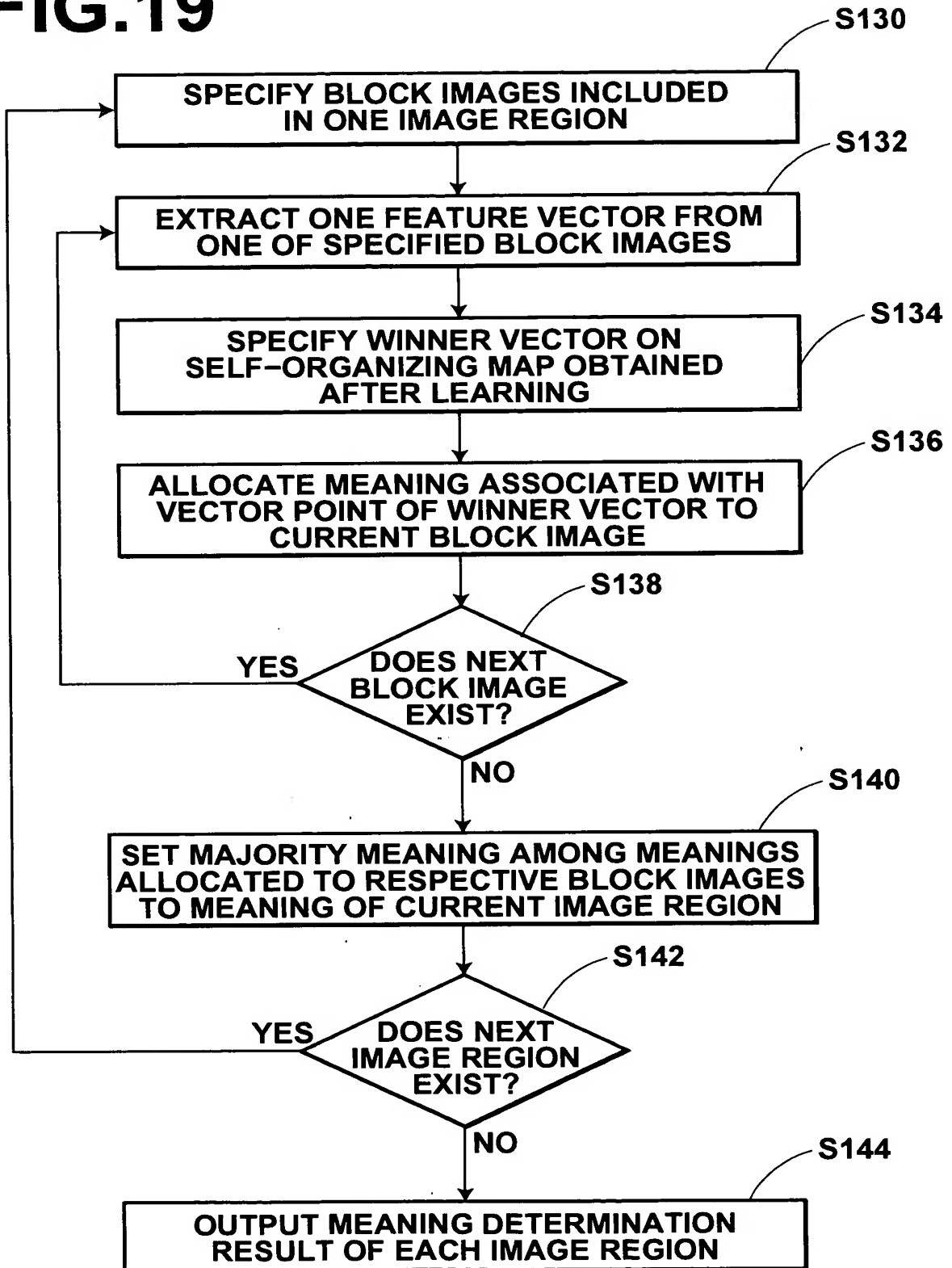
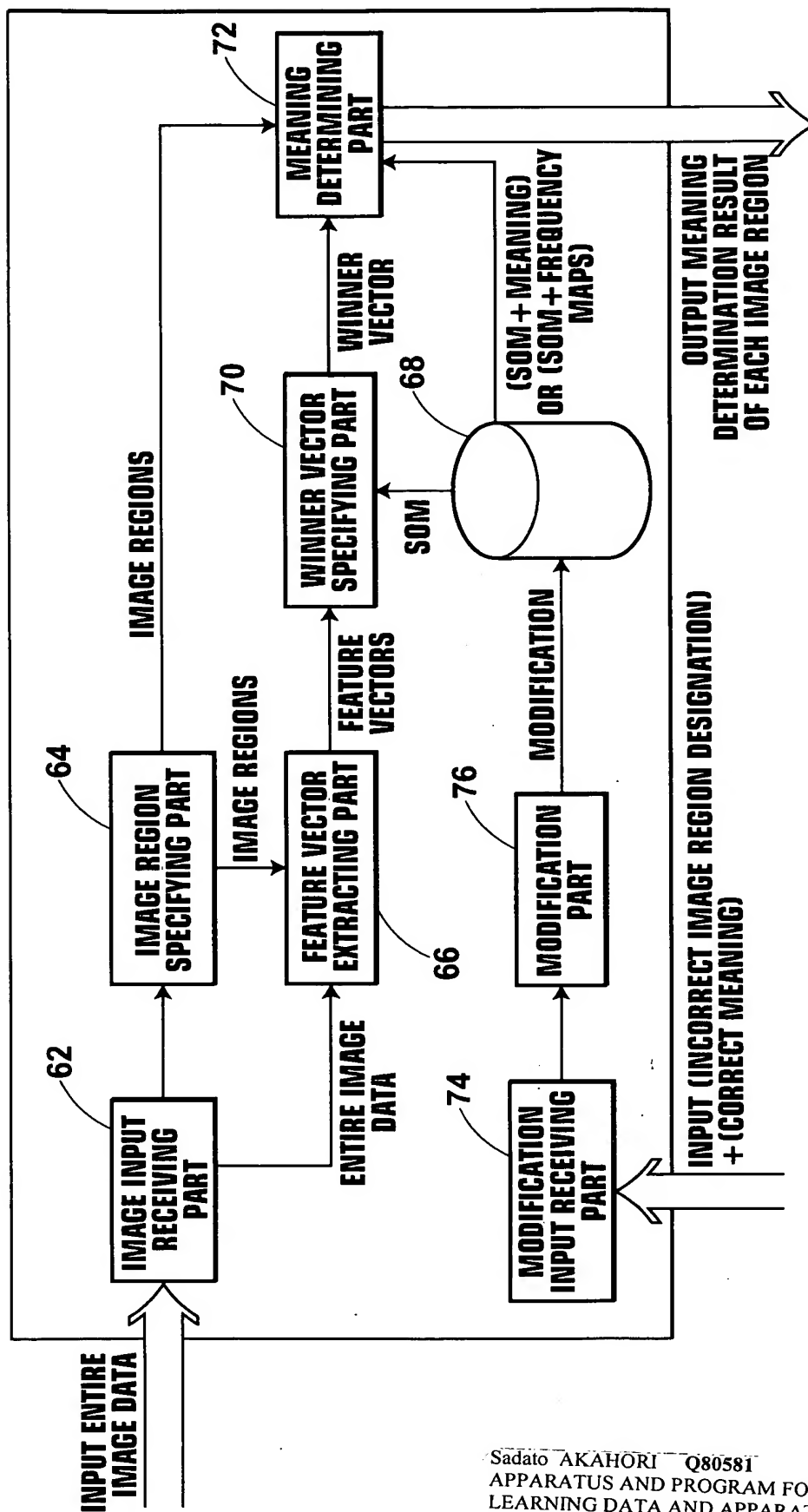


FIG.20

60



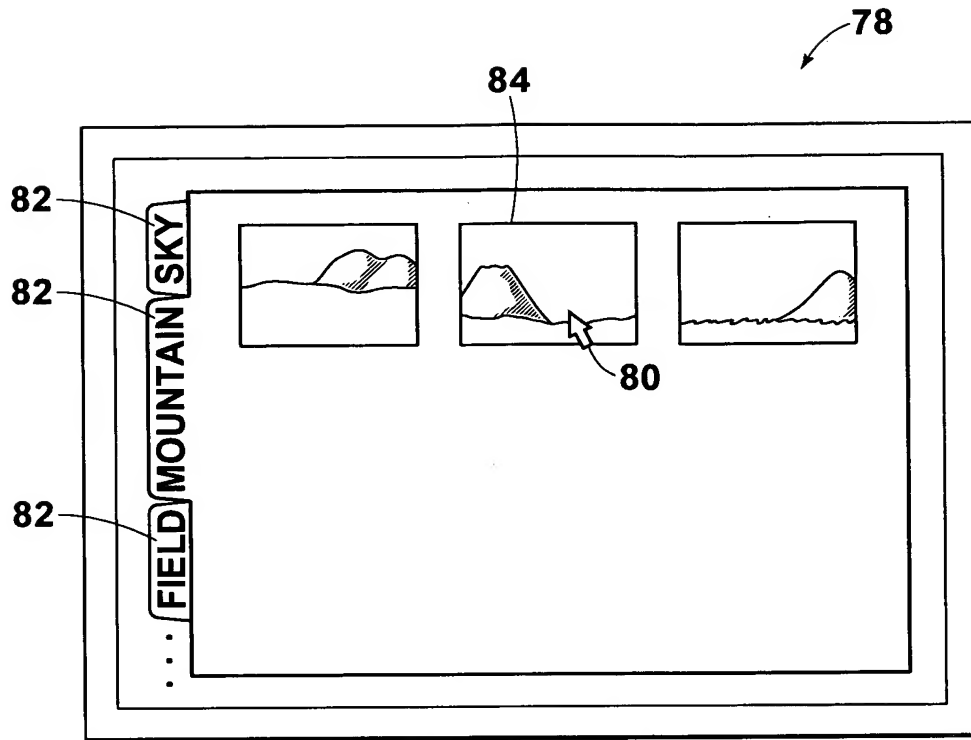


FIG. 21A

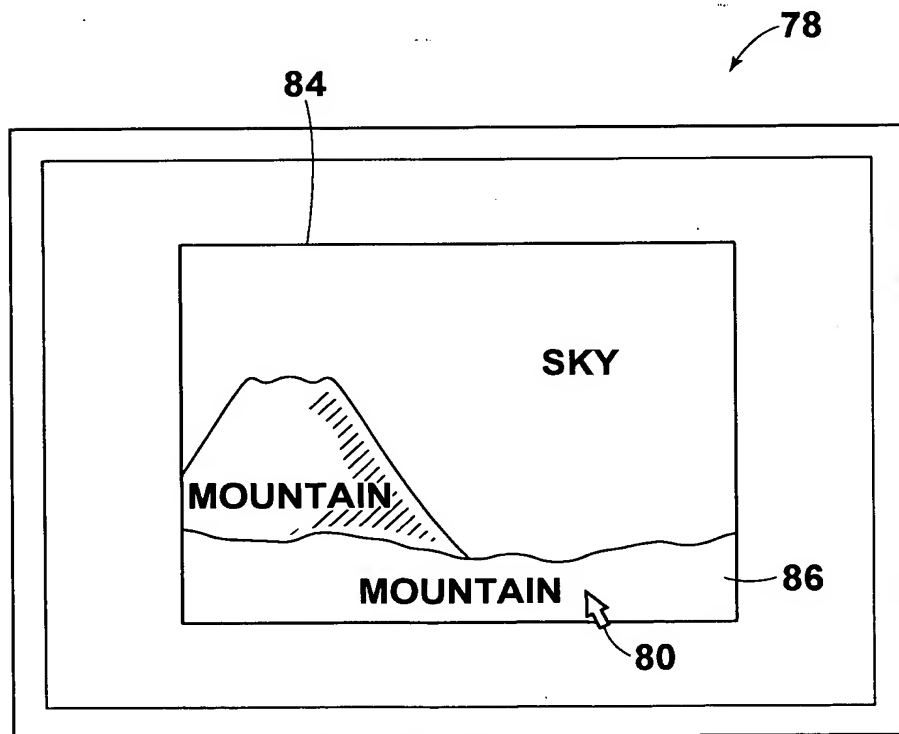


FIG. 21B

FIG.22

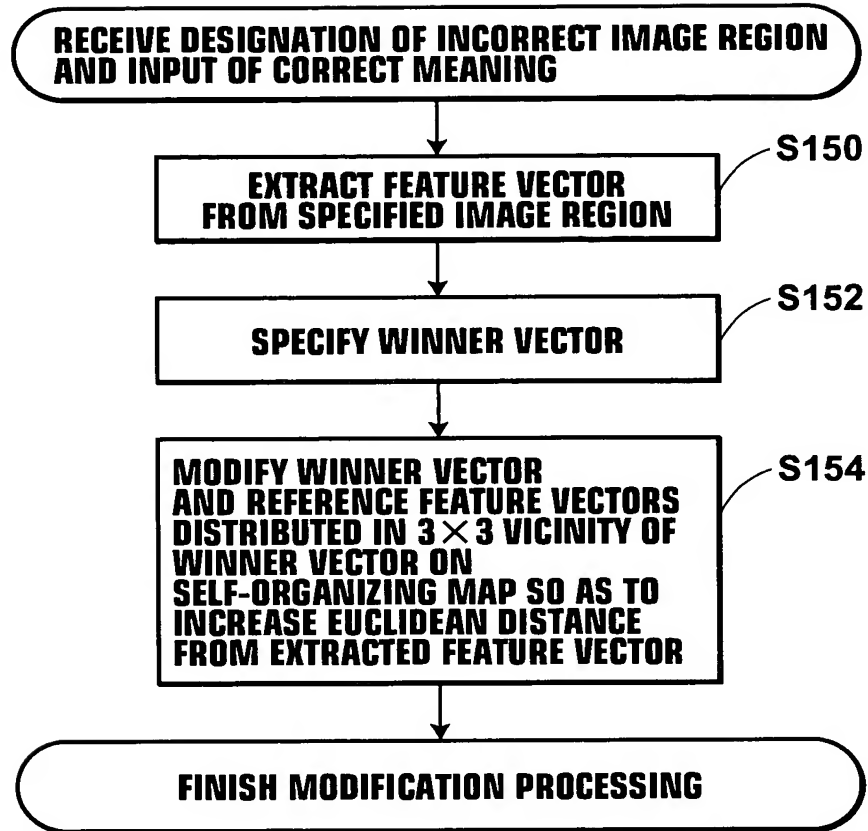


FIG.23

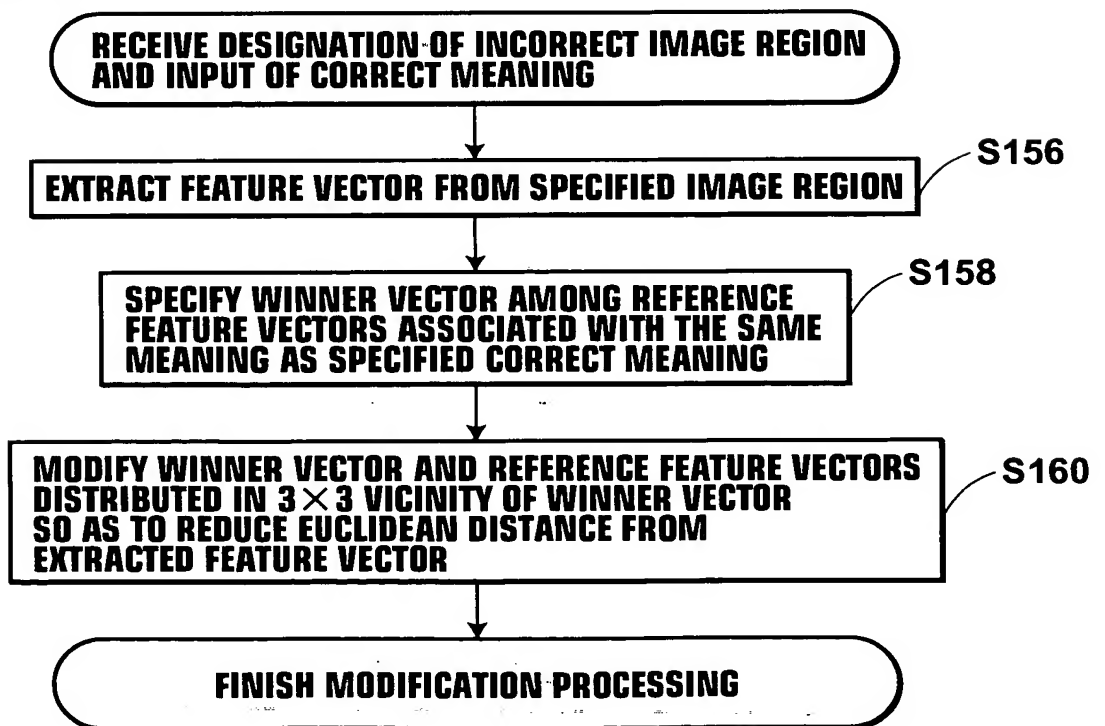


FIG.24

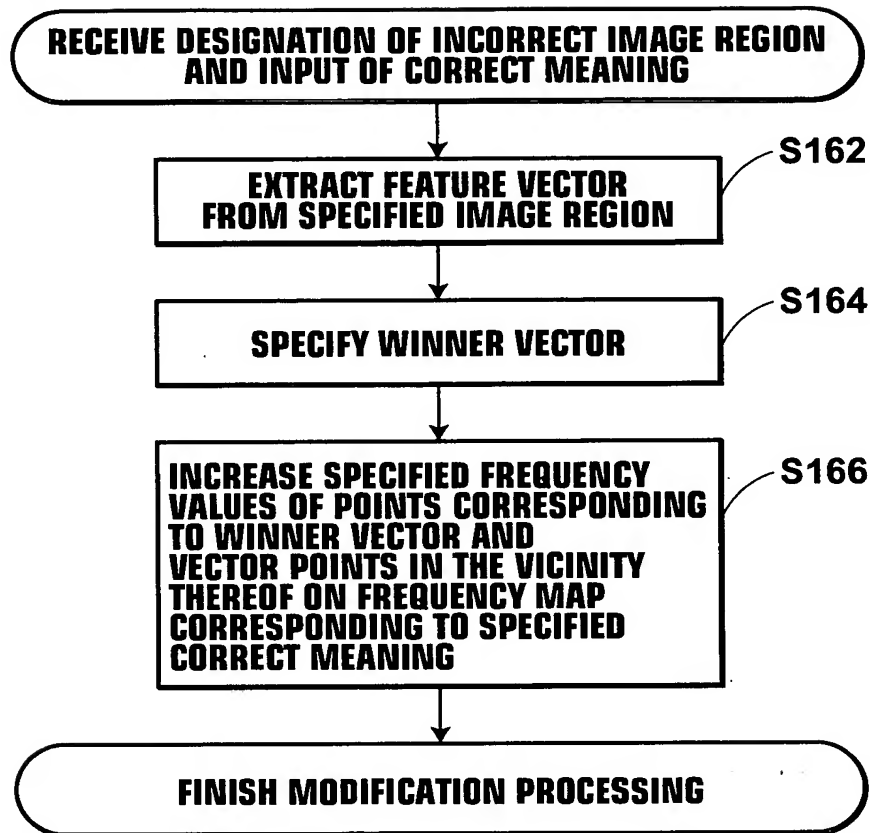


FIG.25

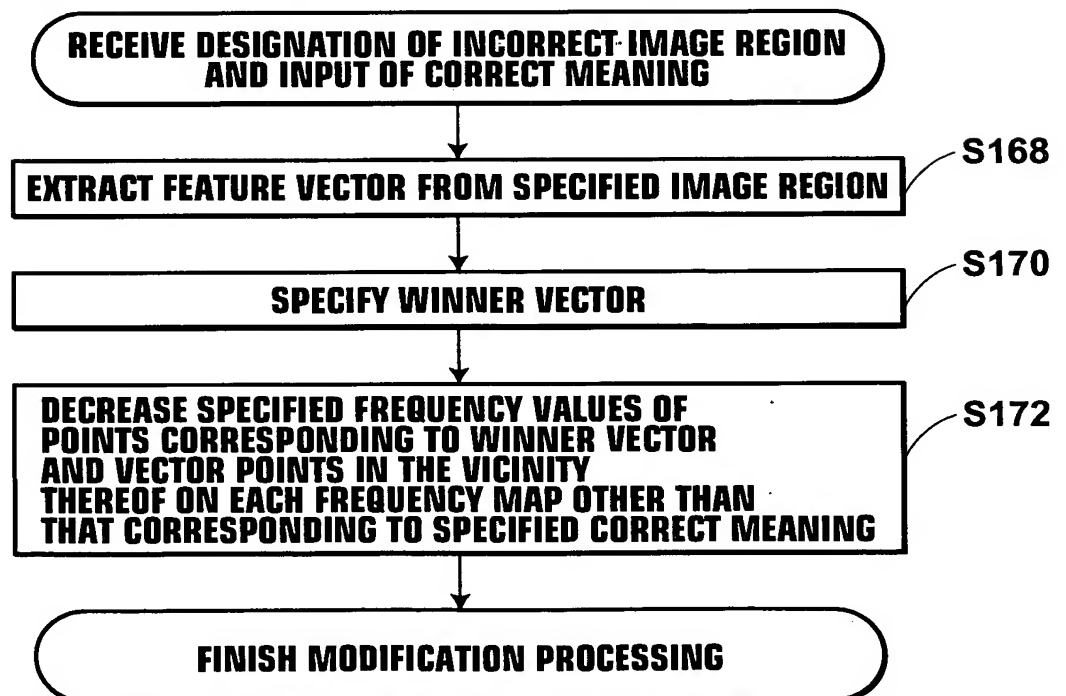
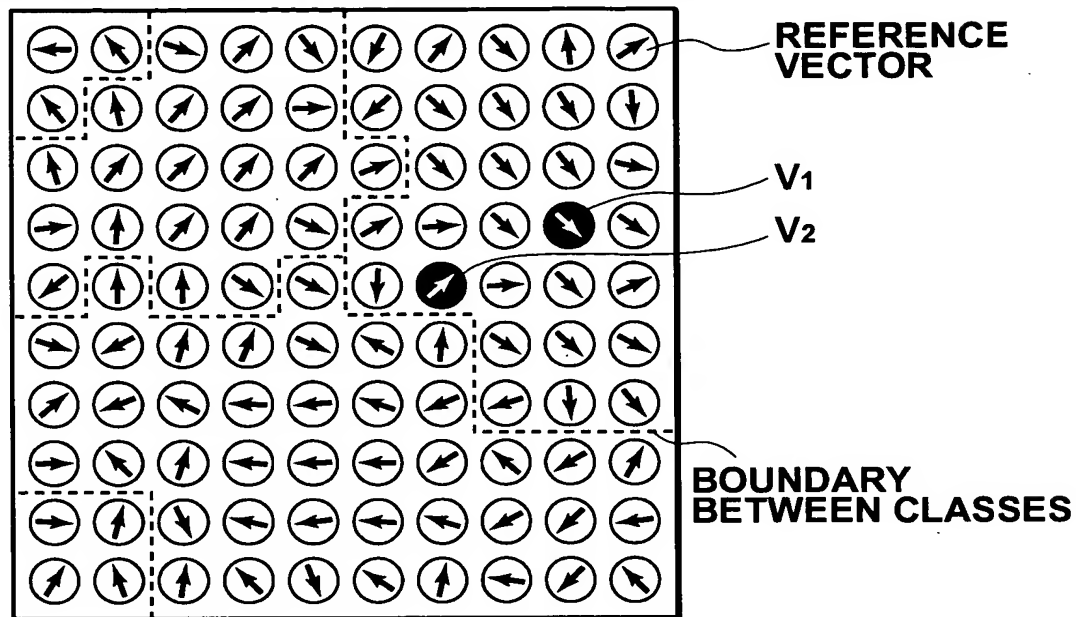


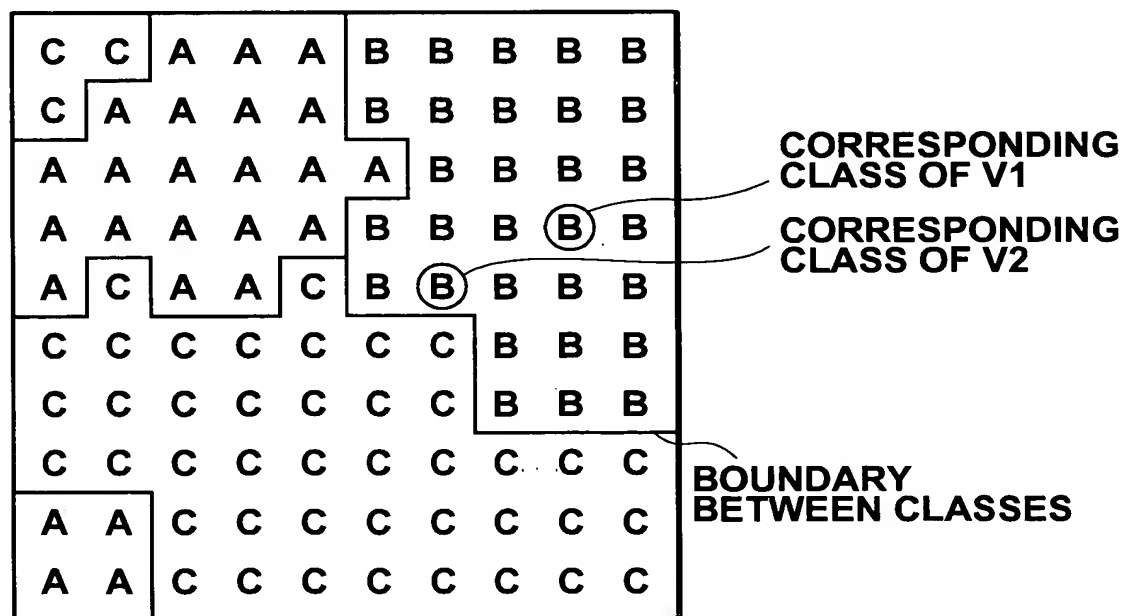
FIG.26A

SELF-ORGANIZING MAP OBTAINED AFTER LEARNING
BASED ON MODIFIED COUNTERPROPAGATION



⇕ CORRESPONDING

FIG.26B



MAP OF CORRESPONDING CLASSES